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SURGICAL CASES.[1]

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Dislocation of the Tendon of the Peroneus Longus Muscle. — This accident occurred to a young lady while walking in the street, and did not completely disable her. On reaching home she removed her shoe and stocking, and found on the outer side of the ankle what she supposed to be a bone that could be slipped in and out of place without pain. She consulted me a few weeks after, when, upon examining the foot, I found that the tendon of the peroneus longus could be easily displaced forward from the groove in which it usually lies, on to the external malleolus, where it could be plainly felt beneath the skin. The tendon was as easily replaced as it was dislocated; but if the displacement occurred while the patient was descending a flight of stairs, it was apt to throw her forward, helpless, and expose her to serious risks. I applied various kinds of bandages, elastic straps, etc., but found that nothing was so effectual in preventing the luxation as a roll of cloth two inches long and about half an inch in diameter, closely applied behind the external malleolus and retained in place by a tightly fitting and stout gaiter. She had sprained her ankle by a fall two months before I saw her, and had commenced to use the foot sooner than was prudent. One year after the accident the same dislocation could be produced by the same movements of the foot, and the pad for retaining the tendon in place was still necessary. The relation of the sprain to the dislocation is an interesting point, from the fact that a similar accident preceded the dislocation in another case reported below.

The literature of the subject shows the lesion to be an unusual one, and one which, as a rule, is not productive of permanent disability. Dr. R. M. Hodges has kindly given me the history of an unpublished case, of which the subject was a lady twenty-two years old. She sprained her ankle, and was imprudent in using the foot after the accident. A plaster blandage was therefore applied; on its removal, a few weeks

[1] Read before the Boston Society for Medical Observation.

later, the foot was apparently in good condition, and limited use of it was allowed. Shortly after, the patient had a second fall, and, as she supposed, sprained the ankle again. Dr. Hodges found that the tendon of the peroneus longus had become dislocated. All kinds of elastic bandages were tried without avail; with them she could walk on level ground, but walking on any uneven surface, the act of going downstairs, or even the weight of bed-clothing, would throw the tendon out of its groove. Finally a boot, which was so arranged that the patient could not flex the foot, prevented the displacement, excepting at long intervals. At the end of six months it still troubled her occasionally.

Mr. Bryant reports[1] the following case; the patient was a woman aged twenty-nine. "It came on some ten days before, when walking, with a sudden pain behind the external malleolus, leading her to think she had been struck with a stone. She was at once disabled, and experienced severe pain in the part. . . . The tendon of the peroneus longus muscle was readily displaced from its groove behind the malleolus by giving the foot a slight twist; it passed obliquely across the bone, and could be rolled under the finger. It was readily displaced on abducting the foot, but it was kept in its position with great difficulty. The best means were found to be a good pad of lint fixed over the ankle and behind it by means of strapping. I saw her one month after, and the tendon seemed fixed in its place; she could walk without pain or stiffness. The bandage and pad were reapplied, and directions given to keep them on for a month." No later report is given. Mr. Bryant states also that "it is a question whether any other tendon can be similarly displaced; it has been said that the long tendon of the biceps may be, but it has never been demonstrated."

In regard to the latter statement, Mr. Bryant may have accepted the comments of Mr. Robert Adams[2] on, or overlooked an account of, two cases read by John Soden, Jr., of Bath, England, before the Royal Medical and Chirurgical Society of London, on July 6, 1841, and published in volume xxiv. of the society's Transactions; in both instances dislocation of the long head of the biceps had taken place during life, and the observation had been verified by an autopsy in each case.[3] Mr. Soden quotes two additional cases that occurred in the practice of Mr. Stanley, which were also verified by autopsies. Sir James Paget, in his Clinical Lectures and Essays, mentions three cases in which the extensor tendon of the middle finger had been slipped over the head of the metacarpal bone, and in one of his lectures exhibited a specimen from the museum of St. Bartholomew's Hospital, where the long tendon of the biceps had been slipped from its groove.

[1] Practice of Surgery, page 992.

[2] Treatise on Rheumatic Gout, page 140.

[3] See report of the Boston Society for Medical Observation in the JOURNAL for January 20, 1876, page 74.

Paget has observed one case where the tendon of the peroneus longus had been dislocated. The result is not given. In his notes he quotes Demarquay as having related two cases in which the accident occurred, and as having mentioned a third. "In one, a muscular and vigorous man, aged thirty-five, in a struggle with his horse, came to the ground with all his weight thrown upon one foot. He was unable to walk, and felt severe pain at the lower part of the leg and in the foot. No fracture or bone-dislocation could be detected, but there was considerable ecchymosis in the course of the peronei, and on the outer surface of the malleolus a tense cord could be felt rolling under the finger, and this was easily returned into the normal position of the peroneal tendons when the foot was extended. A long compress and a bandage sufficed to keep the tendons in place, and in three weeks the patient could walk on the limb. In the second case, a young woman jumped out of a window, and immediately afterwards was unable to walk and complained of severe pain in the foot. There was considerable ecchymosis in the lower third of the leg, extending from the posterior aspect of the fibula forward to the dorsum of the foot, and in the space between the fibula and the tendo-Achillis. The peroneal tendons lay in their natural position, but it was evident that they were not contained in their sheath; and Demarquay believed that they had been displaced in the fall, but had afterwards slipped back again into place."

Mr. Curling has recorded a case of dislocation of the tendon of the peroneus longus in the *British Medical Journal* for January 2, 1869.

Sir Astley Cooper reports the following case: "In June, 1837, says Mr. Sankey, I was called upon to attend Miss H., who had been thrown from her horse and had severely sprained her ankle. Upon examination I discovered a very unusual circumstance, namely, dislocation of the tendon of the peroneus longus muscle from its sheath. I applied, for some weeks, compresses and bandages; and when she went from this place everything appeared going on favorably, but Mr. Heming writes me that she still suffers inconvenience."[1]

An interesting discussion on the displacement of tendons is contained in the Bulletin of the Academy of Medicine at Paris for 1874. It followed the presentation of the case of M. Charles Martins by M. Broca. The former had been the subject of a luxation of the tendon of the tibialis posticus muscle forward, the injury having been received while M. Martins was landing from a descending balloon. Messrs. Broca, Ollier, and Courty saw the patient soon after the accident, and corroborated the diagnosis of M. Pozzi. M. Martins was disabled for three months, and in that time wrote the paper just mentioned. The following cases were quoted: —

[1] Fractures and Dislocations, page 281. Boston. 1844.

Monteggia[1] reports the case of a young man who, in dancing, luxated both peroneal tendons. He had the sensation of having received a blow on the foot. The tendons having been replaced, the pain ceased at the end of a few days. When he commenced to walk they were again displaced, but it was easy to slip them behind the malleolus, though they would not remain there. These alternations of displacement and reduction finally ceased to be painful.

M. Benoit had known a dancing-master whose peronei were in this state, but they did not interfere with the exercise of his profession.

Monteggia himself experienced, upon putting his foot upon a cold pavement, a sharp pain in the sole of the foot, which he attributed to a semi-luxation of the long peroneal, or even of the tibialis posticus.

Robert has communicated to the Society of Surgery, Paris, the following observation.[2] A young man who threw himself out of a window, in an attempt at suicide, received a fracture of the thigh. There was found upon his external malleolus a well-pronounced swelling which was continuous with the tendon of the peroneus longus. Lower down this swelling bifurcated, and one of its portions extended towards the fifth metatarsal bone. It was evidently due to a luxation of the tendons of the long and short peroneal muscles, and it was impossible to replace them.

Jarjavay[3] has observed three cases of luxation of the long peroneal, perfectly evident, and due to falls in which the foot was strongly inverted. The injuries were complicated with œdema and ecchymosis; the reduction was easy, and the cure had occurred at least in a month by maintaining the tendon in place with a compressing bandage.

Legouest[4] observed one case, but the result is not stated. Gosselin, in the discussion at the Academy, reported one case. Towards the eighth day he was able to put on an immovable apparatus, and at the end of six weeks his patient could walk without crutches or cane. At that time Gosselin did not feel sure that the displacement would not recur, and he believes that the tendon will remain in place only when either the rupture in the sheath is closed, or an adhesion between the tendon and its sheath occurs; that direct and continued compression favors both conditions, and that it is impossible to obtain a permanent reduction at the outset.

Of the eighteen cases of dislocation of the peroneal tendons, including my own, thirteen were of the peroneus longus (one doubtful); five were of both the peroneus longus and brevis.

In five of the thirteen cases, including the doubtful one, no result is given. In two, the tendons did not become fixed in their groove, and

[1] Instituzioni chirurgiche, parte seconda, page 336, 1803.

[2] Gazette des Hôpitaux, page 389, 1847.

[3] Gazette hebdomadaire, iv. 387, 1867.

[4] Gazette des Hôpitaux, page 191, 1868.

no disability followed. In three, cures were effected in a month; in one, in three weeks; in one, the reduction seemed permanent at the expiration of a month after the accident, the apparatus was reapplied, and no other result was stated; in one, the patient suffered inconvenience some years after the accident — the ultimate result could not be ascertained.

In one of the group of five cases where both tendons were displaced, no result is given; in one, a cure was effected in three weeks; in one, the tendons could not be replaced — no statement is made as to the subsequent disability; in two cases, the tendons could not be confined in their groove, but no disability followed.

Fracture of the Tympanic Plate of the Temporal Bone, involving that Portion which separates the External Auditory Meatus and the Glenoid Fossa. — The patient was a young man twenty-six years old. The fracture was on the left side, and had resulted from a fall, in which he struck violently on the right mental angle of the lower jaw. He was somewhat stunned by the blow, but soon recovered and found that blood was trickling from his left ear, and that any movement of the jaw produced pain in the region of the temporo-maxillary articulation of the same side. He remained quietly at home during the day, and on the following morning presented himself at the out-patient department of the Massachusetts General Hospital. Blood had continued to ooze during the night, but had stopped when I first examined him. He called attention to the tenderness in the region of the articulation, and stated that any movement of the jaw produced pain and caused a crackling sound in his ear. There was some swelling over the joint, and the external meatus was filled with clot. Upon removing the latter a considerable diminution in the calibre of the passage was observed, and on carefully moving the jaw, a recurrence of the bleeding took place from a small fissure in the anterior portion of the meatus. There was a lacerated wound over the right mental angle of the lower jaw. The normal calibre of the meatus was restored by passing the finger into the passage and pressing in the direction of the joint. A slight crepitus, accompanied with mobility of the anterior portion of the auditory process, was perceptible at that time. The hearing was not impaired. The jaw was confined by a bandage. The patient was told to report on the next day, and confine his diet to liquid nourishment; he did not report again, and his whereabouts could not be ascertained, so that I am unable to give the result, but the symptoms presented by him seemed worth considering in connection with the well-known lesion of fractured base of the skull.

Mr. Prescott Hewett states[1] that "bleeding from the ears in severe injuries of the head has for many years past been held, and deservedly

[1] Holmes's Surgery, ii. 284.

too, as one of the most valuable diagnostic signs of fractured base." Cases are recorded in which the chin has been struck with such violence as to drive a condyle of the lower jaw into the cavity of the skull, causing compound fracture and death.[1] These statements admitted, it is reasonable to believe that the accident which occurred to my patient might, in another case, from a different application of force, produce a fracture on both sides. It is possible that this lesion should co-exist with the effects of concussion, the symptoms of which might be, for example, insensibility at first, the patient lying motionless and all but pulseless, with a countenance marked by extreme pallor, a cold skin, and the pupils dilated; given such a case, from which the patient would doubtless recover, the usual prognosis for fracture of the base of the skull might be a serious matter to the reputation of the surgeon. It seems fair to conclude that the chances, however slight, of an association of bleeding from the ears, due to the fracture described, and insensibility, with or without other symptoms of concussion of the brain, deserve consideration in the examination of all patients with suspected fracture of the base of the skull.

Compound Crucial Fracture of the Condyles of the Femur caused by a Blow on the Patella. — A large, muscular man, thirty years old and weighing about two hundred and fifty pounds, stepped from a third-story window while delirious from drinking, and struck the brick pavement with his left knee and wrist. When he was picked up, a number of bony fragments were seen lying on the pavement. Before he arrived at the hospital, he had bled freely from a small wound on the outer side of and just above the left knee-joint. Upon examination, the lower portion of the femur and the patella were found to be extensively fractured into the knee-joint, and the soft parts lacerated; there was also a compound fracture of both bones of the left fore-arm in its lower third. The patient being etherized, I amputated the thigh just below the middle by enlarging the wound and taking a flap from the outer and inferior surfaces. The fracture of the radius and ulna was put up in anterior and posterior splints. The patient was sent to the ward, and stimulants were administered to him. In the latter part of the next day he had a severe chill; stimulants were given and heaters applied. Delirium supervened during the evening. Toward morning he began to sweat profusely. From that time his pulse and strength gradually failed until he died, forty-eight hours after the accident. Decomposition set in so rapidly that within an hour after he died the whole body was enormously distended and much discolored. No autopsy could be obtained.

Upon examining the parts removed, I found the tibia and fibula uninjured. The patella was comminuted in its inferior third, the

[1] Holmes's Surgery, ii. 277; Chassaignac's Plaies de Tête, 158; Journal hebdomadaire, tome iii., No. 37, September, 1834.

superior and thicker part of the bone remaining intact. The articular surface of the femur presented a well-defined crucial fracture, one line separating the condyles, the other crossing the condyles half an inch in front of the inter-condyloid notch. Above the four fragments of the condyles, the shaft of the bone was comminuted. It is probable that the injury was received upon the flexed knee; also, that the greatest shock was received by the patella and by it transmitted to the femur. The patella then acted the part of a wedge in two ways; its vertical ridge splitting the condyles apart, and its horizontal ridge explaining in the same way the transverse fracture.

The fractures of the condyles, as also a transverse fracture of the femur just above the joint, have been noticed by writers, but I cannot find any notice of a well-defined crucial fracture of the articular surface of the femur. In this case, the comminution of the shaft and the compound fractures of the radius and ulna of course diminished the chances of the patient. I am led to report the case for the reasons which follow.

An article by Alfred Willett, published in the last report of St. Bartholomew's Hospital, contains the following: "Having noticed already the varying relations of the patella to the femur, it is requisite only briefly to direct attention to some peculiarities in their articular surface.

"First, that, from the two facets of the patella not being in the same plane, but looking somewhat away from each other, they form together an obtuse angle, their line of junction having a more or less well marked ridge.

"Secondly, that the configuration of the lower end of the femur places the patella, when the knee is flexed, in the depression between the condyles; and, from the articular cartilage and subjacent layer of condensed bone being here relatively thinner than upon the condyles, the inter-condyloid notch is the weakest part of this surface of the femur. If the question be asked, 'What happens when a person stumbles and falls forward on to his knee?' clearly the subcutaneous surface of the patella, standing out prominently between the condyles of the femur, receives the impact of the blow, and transmits it to the articular surface of the femur. But more than this results, for the patella acts as a wedge and the force of the blow has therefore a splitting effect directed against the weakest spot, namely, the inter-condyloid notch; hence, given sufficient violence, the inevitable result will be an upward splitting fracture between the condyles, terminating with the breaking off of both, horizontally, producing a T-shaped fracture; or, if the blow have been oblique, one condyle alone may be split off."

Willett here refers to the possibility of one fracture alone, namely, that resulting from the vertical ridge of the patella, by which the con-

dyles are split apart. He does not allude to the similar result here produced by the transverse ridge of the patella, in splitting the condyles transversely. It will be seen, on examining the healthy bone, that the vertical and horizontal ridges of the patella cross each other at a point situated a little below its middle. This point is usually the thickest part of the bone, and forms a considerable elevation, closely applied to the articular surface of the femur when the limb is flexed. With a sufficient blow, a stellate fracture of the articular surface of the femur is thus readily explained. It corresponds with that in the wrist-joint when the lunar and scaphoid bones are driven against the articular surface of the radius. This wedge-like action of the carpal bones, spreading the hollow of the corresponding articular surface, was described some years ago by Dr. H. J. Bigelow in the report of two interesting cases of stellate crack or fracture of the radius at the wrist, diagnosticated by him during life and verified by autopsies.[1] Through the kindness of Dr. Bigelow, I am enabled to show a specimen from an unpublished case, which involved the ankle-joint and also exemplifies the mechanism of this fracture. The injury occurred to a patient who entered the hospital last year; he received it by falling eight and a half feet, through a railroad bridge, striking the ground with his heels, the right foot in advance of the left. He entered the hospital twelve days after, with a compound comminuted fracture into the ankle-joint, which subsequently required amputation of the leg. In this instance, the rounded and convex articular surface of the astragalus acted the part of a wedge against the inferior articular surface of the tibia, producing a stellate fracture.

Penetrating Gun-Shot Wound of the Chest, with Probable Lodgment of the Ball in the Vertebral Column. — The patient was a man twenty-seven years of age, who, having been depressed for some time, attempted suicide by laudanum; that failing, he shot himself the next morning with a revolver (Smith and Wesson's). I saw him about six hours after, with Dr. Bemis, of Medford, and ascertained that he had placed the muzzle of the weapon close to the skin, near what he supposed to be the heart, and fired. His appearance suggested collapse from hæmorrhage and shock; the skin, pale and cold, was covered with perspiration, the pulse very small and irregular. His mind was perfectly clear, and he had very little pain, unless he attempted to change his position. An examination of the injured region disclosed a small wound between the fifth and sixth ribs of the left side, in a vertical line and two and a half inches below the nipple of that side. The skin for two inches around was blackened by powder. The apex of the heart could be felt pulsating at a point three quarters of an inch to the left of the wound. There was no interference with respiration, as far as could

[1] Journal, lviii. 99; quoted and illustrated by Hamilton in his Fractures and Dislocations, second edition, page 266.

be ascertained from auscultation of the front of the chest, and no hæmoptysis had occurred. If the location of the ball had warranted an exploration, his weak condition forbade it. Stimulants and opiates as occasion required had been administered and were continued, with but slight expectation on the part of his attending physician or myself that he would rally.

I saw him twenty-four hours later, and was informed that very little change had occurred until evening, when his pulse became imperceptible, and his respiration gasping; it seemed as if he would die at any moment. Stimulants were continued, and the pulse gradually strengthened from that time until my next visit, when it could be counted 104 to the minute and was of good strength. He was able to sit up in bed, with but little pain, so that I was able to complete my examination. There was no trace of a wound of exit, and there had been no hæmorrhage from the wound of entrance. No evidence of the location of the ball could be gained by auscultation or percussion. There was a trifle less resonance, and the respiratory murmur was a little less distinct, at the right base than on the left side. The only symptom that the patient complained of was paralysis of motion and sensation in the right leg, from Poupart's ligament downward. At my request he placed the pistol in the same position, as near as he could recollect, that it occupied when he fired it the day before. A straight line in the axis of the barrel crossed the spinal column diagonally, and suggested the probability of a lodgment of the ball in the vertebral column, unless it had been deflected in its course. No unfavorable symptoms had developed within twelve hours.

I saw him again two weeks after. He was sitting up, dressed, and stated that he felt perfectly well in every particular, with the exception of the toes of his right foot. He could not extend them, but could flex them, and the sensation was good. All his functions were well performed. He had taken a drive, and enjoyed it. I examined the wound and found that it had entirely healed. As he gradually accustomed himself to exercise, he observed that the right leg gave him some trouble in walking. Four months after the injury his gait was decidedly affected by the want of complete control of the extensors in the same limb.

Considering all the facts presented in the case, a diagnosis of penetrating wound of the chest seems reasonable (if we admit the statement of the patient that the barrel he discharged was loaded with ball), from (1) the close proximity of the muzzle of the weapon to the soft tissues between the ribs (the pistol will send a ball through a two-inch plank at one hundred feet); (2) the direction given the ball by the pistol; (3) the paralysis of the right leg.

Against this evidence may be fairly presented (1) the possibility of

a deflection of the ball by the upper or lower border of the ribs on either side of the wound, so as to direct it around the chest to the spine, without perforation of the thoracic cavities; (2) the possibility of a transmission of shock by the ribs to the spine, caused by the close proximity of the muzzle of the weapon during the discharge of a blank cartridge; (3) the fact that no hæmoptysis or emphysema resulted from the injury, or any other symptom which could be referred to a disturbance of the contents of the thoracic cavities.

The nature of the wound and the strong wish of the patient not to live, after the injury, seem reasonable evidence of the use of a loaded cartridge. The character of the patient was good, and his word was to be relied upon; he stated positively that he did use a loaded cartridge. The weapon when found was loaded in every barrel but one, and that one contained the copper cylinder which is usually loaded with powder and fastened to the ball. The mental depression was caused by the loss of his wife.

The close proximity of the muzzle to the surface of the body would certainly seem to allow very slight opportunity for immediate deflection. Unless immediate deflection took place, perforation of the thoracic cavity was probable. With reference to the absence of emphysema and hæmpotysis, as evidence against the penetration of the chest or even wound of the lung, the following quotations are appended: —

"Bloody expectoration is a very deceptive diagnostic sign of lung wound. Out of nine fatal cases that he had collected, only one had hæmoptysis, and in seven cases in which the lung was unwounded, two only had hæmoptysis." [1]

"Bloody expectoration is not a pathognomonic characteristic of penetration of the lung. He has seen it accompanying simple contusion or superficial wounds." [2]

"Neither emphysema nor secondary hæmorrhage appears to have led to a fatal termination before Sebastopol." [3]

Longmore [4] enumerates the following symptoms of gun-shot wound of the lung: constitutional shock, collapse and tendency to syncope from loss of blood, hæmorrhage from external wound, effusion of blood into pleural cavity, hæmoptysis, dyspnœa, emphysema; and states that "we must not conclude that a lung has not been wounded because one or more of them is absent."

Penetrating wounds of the chest with lodgment of the ball in the vertebral column are rare, and recovery from them exceptional. One case only is reported in Circular No. 6 of the Surgeon-General's Office at Washington. The patient was a private soldier, twenty-one years

[1] Dr. Fraser, Cooper's Surgical Dictionary, i. 826.
[2] Appia, Cooper's Surgical Dictionary, i. 826.
[3] Cooper's Surgical Dictionary, i. 826.
[4] Holmes's Surgery, ii. 191.

old. The ball entered at the left sterno-clavicular articulation, traversed the apex of the left lung, and lodged in the vertebral column. Immediately after his injury, he had hæmoptysis. He was able to walk from the field of battle to the hospital steamer, six miles distant. He stated that his wound bled very freely. When admitted to the hospital his face was dusky, his pulse accelerated, and crepitant râles were audible in the left chest. There was partial paralysis of the arms. He was ordered one eighth of a grain of tartarized antimony every two hours, low diet, and perfect quiet. He gradually improved, with one or two drawbacks, ultimately recovered, and was transferred to the Veteran Reserve Corps.

Dr. J. Mason Warren describes the following case in his Surgical Observations and Cases:[1] A woman was shot from behind. She lived three days only, and at the autopsy it was found that one of the bullets had passed through the cavity of the chest and lodged in the body of a dorsal vertebra. A second bullet struck the first rib and was cut in two by it, one half traversing the top of the rib, the other traversing the lung, being found loose in the cavity of the chest. The hæmorrhage produced by this wound filled the chest, compressed the lung, and was the immediate cause of her death. The third bullet entered the neck, and its course could not be traced.

As to the mortality of penetrating wounds of the chest, "Mouat and Wyatt, whose statistics were made from the returns of the Russian army at the siege of Sebastopol, state that out of two hundred cases only three recovered."[2]

According to Dr. Chenu's Crimean returns the mortality was 91.9 per cent. In the war of the rebellion, results were ascertained in 1272 cases; of these, 930 were fatal.

RECENT PROGRESS IN ANATOMY.

BY THOMAS DWIGHT, JR., M. D.

METHODS.

Double Staining with Hæmatoxyline and Aniline.[3] — Mr. W. H. Poole has used this method with great success in staining sections of the brain and cord. The two agents, according to this author, are well fitted for double staining, as the aniline has the strongest affinity for precisely those parts for which hæmatoxyline has the least. This view is not that usually held. The sections are put into logwood for from twenty to twenty-four hours, and then washed in weak spirit, which in turn is removed by water. It is then plunged into a moderately strong solu-

[1] Page 560.

[2] Erichsen, Science and Art of Surgery, page 397.

[3] Quarterly Journal of Microscopical Science, October, 1875.

tion of aniline for from one half to three quarters of a minute, again washed in spirit, and after the usual process mounted in dammar. The protoplasm of the cells is much bluer than the nuclei.

The effect is said to be particularly good in the cerebellum, where the medullary substance is of a rich purple and the cortical of a pale blue, in which the cells are very clearly seen. We are not told how well these preparations retain their color, and as neither of the agents is very trustworthy in this respect we fear their permanence is rather doubtful.

Aniline black has been introduced by Mr. H. R. O. Sankey as a new staining agent especially suited for the brain.[1] It has the quality of durability that, as far as we know, all other aniline dyes lack. This is due to the fact that it is but slightly soluble in alcohol. According to Mr. Sankey, the best way is to make a very strong solution in water and to pour that into alcohol. It stains in a few minutes, giving a bluish-gray color.

Eosin,[2] a new red coloring agent, is apparently a valuable one, but as a communication of some length concerning it has been presented to the JOURNAL recently, we forbear any discussion.

The Injection of Gold Chloride.[3] — According to Dr. Thin and Mr. J. C. Ewart, very valuable and striking results are to be obtained by this new method of applying gold. The paper in which they announce their discovery treats chiefly of the lens, between the fibres of which they found cells after injecting a small animal from the aorta. The method is as follows: The animal is bled to death and the canula introduced as soon as the flow of blood ceases. The gold solution, of the strength of one fourth of one per cent., is injected till the tissues are greatly distended; shortly after which the eyes are cut out and placed for fifteen minutes in a gold solution of one half per cent. Sometimes logwood staining was also used twenty-four hours after the gold. This method is very advantageous, not only for the lens but also for the cornea and sclerotic. These observers have applied it to other tissues, but give as yet no details of steps. The elastic fibres in tendon are said to be finely shown by an injection through the femoral.

BONES AND MUSCLES.

Sesamoid Bones of the Hand. — Professor Aeby[4] has examined seventy-one hands apparently to demonstrate that sesamoid bones are far more common than is supposed. The following passage from Quain's Anatomy gives perhaps a fair idea of the general impression in regard to them: "A pair of sesamoid bones is placed in the palmar wall of the metacarpo-phalangeal articulation of the thumb; and similar

[1] Quarterly Journal of Microscopical Science, January, 1876.
[2] Archiv für mikroskopische Anatomie, Band xii., heft 2.
[3] Journal of Anatomy and Physiology, January, 1876.
[4] Reichert and Du Bois Reymond's Archiv, 1875, heft 2.

nodules, single or double, are sometimes found in the corresponding joint of one or more of the other fingers, most frequently of the index and little fingers." Professor Aeby has examined these joints of the index and little fingers only with the following results. He never found more than one sesamoid bone in a joint, and when present it was *always* on the radial side in the index and on the ulnar side in the fifth finger. Of the seventy-one extremities, twenty-nine had bones in both of these joints. In one case, it was found in the fore-finger only, and in twenty-one in the little finger only. In twenty cases it was found in neither. Thus it appears that it occurred fifty times in the little finger to thirty in the fore-finger. There appeared no special difference between the right and left hand, nor between hands of men and women.

The Secondary Arches of the Foot. — Mr. S. Messenger Bradley,[1] having studied several sections through the foot, passing from the heel through the great toe, the third toe, and, as we infer, through various intermediate points, has concluded that the articular surfaces of the tarsal and tarso-metatarsal joints are all arcs of circles, with the exception of the joint between the scaphoid and cuneiform, which occasionally is not. Mr. Bradley does not mention to which of the three cuneiform bones he refers. He gives the diameters of the circles of which the various articular surfaces are arcs, without stating in what plane the measurements are made; but inasmuch as he gives a wood-cut of a section through the third toe, we suppose it is in that.

We have verified his results on a very nearly similar section, and our observations agree very closely with Mr. Bradley's; but we are forced to the conclusion that a large number of sections within the limits covered by his observations would show many articular surfaces that are far from arcs of circles. Thus, he figures the joint between the scaphoid and the external cuneiform as an arc of a circle with the convexity backward, and in a section in our possession through the scaphoid and the first cuneiform we find also that there is a true arc of a circle, but it has the convexity forward. Between these two extremes there must have been many planes in which the sections would not have shown arcs. Again, in our last-mentioned section we find the joint between the internal cuneiform and the first metatarsal perfectly straight. Although believing that Mr. Bradley has been rather hasty in his conclusions, we are ready to admit that motion in many of these joints is rotary and not sliding, and that this arrangement, to which he is, we believe, the first to call attention, goes far to account for the strength and solidity of the foot.

The Function of the Levator Ani.[2] — It has been thought by most authorities that this muscle assists in the act of defæcation by raising

[1] Journal of Anatomy and Physiology, January, 1876.

[2] Dr. Julius Budge, in Berliner klinische Wochenschrift, July 5, 1875.

and dilating the sphincter, though Henle and Cruveilhier have not shared in this opinion. Dr. Budge agrees with these authorities that the reverse is the case, and supports his view by dissection and experiment. He finds that some of the fibres of this muscle pass into the pelvic fascia, which is made tense by their contraction, and that some go, as is well known, to the external sphincter; but that the greater number are inserted into a delicate fascia surrounding the rectum in such a way as to form loops around it. There are two chief bands on each side, a smaller anterior and a larger posterior one, each of which crosses the median line and runs somewhat around the rectum, so that their simultaneous contraction must close it. This was proved, at least in the dog, by the following experiment. A dog having been killed and the abdomen opened, a glass tube containing water was fastened into the upper part of the rectum. Galvanization of the levator ani stopped at once the passage of the water, which had been escaping from the anus. The author holds that under some circumstances the muscle may assist in defæcation, but here his argument is less apparent. He believes that it is due to this muscle that patients in whom the sphincter has been divided often retain some control over the fæces. It is probable, no doubt, that the superior sphincter assists in this when present, but its small size and frequent absence make it unlikely that it is of much importance.

(To be concluded.)

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

EDWARD WIGGLESWORTH, JR., M. D., SECRETARY.

DECEMBER 20, 1875. — The regular paper for the evening was read by DR. O. W. DOE, upon —

The Efficacy of Cold-Water Treatment in Typhoid Fever. — Since Brand, in Germany, first made known his investigations relating to the use of cold water in the treatment of typhoid fever, clinical researches have given rise to different conclusions regarding its beneficial results, which perhaps may be dependent upon the various methods of its application.

The method pursued by Brand was to place the patient, at the very commencement of the disease if possible, in a bath at a temperature of 68° Fahr., and to pour over the head for two minutes water at a temperature of from 43° to 47° Fahr. Friction was kept up on the limbs under water for five minutes, and the patient was then allowed to rest quietly in the bath for ten minutes longer, when, without being dried, he was removed to bed and lightly covered. These baths were repeated every three hours until the temperature in the rectum measured 101°.

Others make use of a bath at a temperature of from 50° to 60° Fahr., continued from ten to fifteen minutes, or until the patient has a chill.

Liebermeister sometimes recommends shower baths, or, for children and for those persons of a naturally weak constitution, cold packing, continued from ten to twenty minutes, and repeated from three to seven times at very short intervals. He considers four packings equal to a bath of ten minutes' duration at a temperature of 68° Fahr.

Ziemssen advises placing the patient in a bath at 86° Fahr., and gradually reducing the temperature by the addition of cold water.

My object in the present paper is to offer the results derived from the different methods of treatment pursued by Professor Friedreich in his clinic at the hospital in Heidelberg. For the facts herein contained I am indebted to his assistant, Dr. Friedrich Schultze, who has made a very careful study of the cases, and has kindly allowed me to make use of the results obtained from his investigations.

The cases, numbering in all six hundred and forty-eight, extended over a period of ten years, from 1864 to 1873 inclusive, and were divided into three different series.

In the first four years the cases were treated without baths, excepting when symptoms of coma supervened, and then a bath of 95° Fahr. was given, combined with affusion of cold water over the head.

In the three following years the treatment consisted in the administration of two baths a day at a temperature of 90.5°, cooled down to 72.5°, and continued for half an hour; occasionally cold packing of the entire body was practiced.

During the last three years the cases were treated according to a systematic method of heat abstraction in the following manner. As soon as the thermometer in the axilla showed a temperature of 102.5°, a full bath was given, and continued from fifteen to twenty minutes, with a temperature usually of from 72.5° to 77°; the lowest being 68° and the highest 86°. While the patient was in the bath, water at a temperature of from 41° to 59° was poured twice or three times over the head. In addition to these cold baths, the patient, in the interval, was placed upon rubber cushions, of the size of the mattress and filled with water at a temperature of from 50° to 59°, increased even to 80° if the patient was of a very delicate constitution. In the case of those who were previously very strong and robust, ice-bags were also used, being placed upon the chest and abdomen.

The contra-indications to this very energetic mode of treatment were collapse, perforation of the bowels, and intestinal hæmorrhage; cases of organic cardiac affections received only moderately cool baths.

During the ten years in which these observations were made, the internal treatment was not essentially altered; it consisted usually in the administration of calomel in the early stages of the disease, followed by acid drinks and the occasional use of quinine in large doses; so that the relative results obtained are in no way affected by the internal treatment, inasmuch as it was the same in all the cases.

In comparing the first seven years — during the first four of which no baths were given unless coma supervened, while in the last three they were only imperfectly administered — with the last three years, when the baths were systematically given according to thermometric indications, we find the mortality-rate

diminished from 11.2 to 6.7 per cent.; and if we select only those cases of a severe type, we find a difference of 5.5 per cent. in favor of the latter method of treatment. If we take those cases in which no baths at all were given, and compare them with those of a similar character in the last series, we find among two hundred and sixty of the former a death-rate of 14.2 per cent.; and among one hundred and sixteen of the latter only 10.3 per cent., a difference of nearly 4 per cent. The change in treatment made at the commencement of the second series, when two prolonged baths of half an hour each were daily given in place of entire freedom from cold baths, was attended with an increase in the mortality-rate from 14.6 to 20 per cent.; and during the two succeeding years, in which this treatment was followed, the death-rate was respectively 23 and 18.1 per cent. It is interesting to notice that in the year 1865, when 86.6 per cent. of the cases treated were of a severe type, without baths the mortality-rate was only 12.5 per cent.; while in the year 1869, when only 67.5 per cent. of the cases were of a severe form, under the treatment of two baths a day the mortality was 23 per cent., an increase of ten per cent., when there was a decrease in the severity of the disease of 19 per cent.

With the commencement of the systematic method of heat abstraction as practiced in the last series, the mortality fell immediately from 18.1 to 9 per cent. Other observers, Wunderlich for example, comparing the results of Brand's method with those of other systems of treatment in their own practice, report a decrease from 18.1 to 7.2 per cent.; Jürgensen from 30.2 to 7.5 per cent.; Liebermeister from 26.2 to 9.7 per cent. These results, though very encouraging, fall far short of the success obtained by Brand, who reports no fatal case among the eighty-nine patients thus treated in 1870 and 1871; and never a fatal result where he had attended the patient from the very commencement of the disease.

As regards the influence of this method of treatment by frequent cold baths upon the different phases of the disease, it was noticed that in the first series without baths 15 per cent. manifested severe cerebral complications, in the second series 28 per cent., and in the last only 6 per cent; and it was especially noticeable that when this complication existed it was much milder in those cases treated with baths than in those not so treated.

Previously to the investigations of Schultze, most observers noticed neither an increase nor a decrease of pulmonary or pleuritic affections; but his observations showed that in the first series 10 per cent. were affected with atelectasis or hypostasis, in the second 10.6 per cent., and in the last only 5 per cent. Croupous pneumonia occurred six times in three hundred and forty-nine cases treated without baths, and only twice in two hundred and thirty-seven cases with baths. The frequency of pleuritic affections and the continuance of the bronchial catarrh seemed to be unaffected, excepting that in bronchitis the cold bathing appeared to act as a powerful expectorant; this was attributed by Schultze to its tonic action, removing that condition of apathy in which the irritation and desire to cough were not experienced.

The baths, through their enforced cleanliness and stimulating effect upon the capillary circulation, reduced the frequency of bed-sores to almost a minimum; this complication occurred in only 3.8 per cent., whereas previously to the use

of the baths it had existed in 11 per cent. of the cases treated. The frequency of the formation of thrombi was also found to be diminished from 3 per cent. before to 1.6 per cent. after the use of the baths, and almost always affected the femoral vein, more often the left than the right.

This method of treatment seemed to exert a very favorable effect also on the tendency manifested by the disease to relapse, as shown by comparing the first three with the last three years; in the former 15 per cent. suffered from relapse, while in the latter only 5 per cent. I find also that in the clinic of Professor Ziemssen, at Munich, during the year 1874 only 4.5 per cent. of the cases similarly treated suffered a relapse.

If we compare the duration of the disease in the two series, we find that in the former, in which the patients did not have baths, the average course was twenty-seven and one fourth days, while in the latter, in which baths were used, it was twenty-three days, the longest periods being respectively one hundred and sixty-four and one hundred and forty-three days.

In all the cases under treatment meteorism was observed only four times in a severe form, its rarity being attributed by Professor Friedreich to the administration of calomel at the commencement of the disease. He asserts that he never saw this symptom occur but once when calomel had been given in the early stage of the attack.

Thus far we have seen only the beneficial effects of the cold-water treatment; but if now we look to the frequency of the occurrence of intestinal hæmorrhage, we find that this method of treatment exerts a very serious influence thereon. Wunderlich found in his clinic at Leipzig that the frequency of this complication was increased, though fortunately not the mortality. Professors Ziemssen and Gerhardt have also referred to its increased frequency. Schultze, in his investigations, found it to occur in 5.3 per cent. of the cases treated without baths, and in 10.9 per cent. of those treated with baths; and among the latter, three had a second attack of hæmorrhage, an occurrence never observed in those cases treated without baths. The possibility that this was dependent upon a more hæmorrhagic character of the disease during the last three years is excluded by the fact that in those patients treated outside of the hospital, where the cold baths were not administered, the number of hæmorrhagic cases fell from 10.9 to 5 per cent. The hæmorrhage usually occurred in from one to three hours after the bath. It was noticed that cases of heart-disease complicating typhoid fever were much more prone to hæmorrhage than others; two cases occurred in seven thus affected.

The frequency of neuralgia of the different nerve-trunks was also noticeably increased; it occurred in 5.5 per cent. of the cases treated with baths, and in only 1.2 per cent. of those not receiving baths. Another undesirable effect was the marked hyperæmia of the lower extremities occasionally observed, continuing until the baths were suspended.

Aside from the treatment, the following peculiarities were noticed at the Heidelberg clinic. In the primary stage of the disease stiffness and pain in the cervical muscles were observed in twenty-three of the six hundred and forty-eight cases, sometimes so severe as to simulate spinal meningitis; this symptom I have myself noticed in a recent case under my own care, and in so severe a form as to mask the real disease throughout the first week.

In seventy cases the disease was ushered in with a chill, though, if a relapse followed, this symptom was seldom observed; and it was also noticed that usually in those attacks beginning with a chill and sudden high rise of temperature, the disease ran a mild course. This fact was observed by Jürgensen also.

The roseola was usually apparent at the end of the first week; in no case earlier than the fifth or later than the twelfth day.

Enlargement of the spleen was noticed in all of the six hundred and forty-eight cases excepting thirty-five, and in two hundred and twenty-one patients it was so large as to be felt below the ribs. Professor Friedreich lays great stress upon this splenic enlargement as a diagnostic point in typhoid fever, and considers it the earliest tangible evidence of the disease, even observable before any rational symptoms manifest themselves. He considers this not only an early symptom, but also the last to disappear, and believes that as long as there remains any enlargement of the spleen there is always danger of relapse. He diagnosticated an impending typhoid at one time from accidentally detecting an enlarged spleen in the person of his assistant, who, notwithstanding, expressed himself as feeling perfectly well. Within the next three days the supervention of other symptoms of a severe form of typhoid confirmed his diagnosis.

Professor Friedreich maintains that by the administration of twelve grains of calomel at the beginning of the disease its course may be checked, or at least rendered very mild; his confidence in this is such that he feels justified in speaking of it as the abortive treatment of typhoid fever.

Dr. Bowditch asked if the calomel treatment of typhoid fever was a recent method.

Dr. Doe said it had been employed for some ten years, and that about twelve grains in three separate doses were to be given per diem. In applying baths, Friedreich puts the patient into water of the temperature of the body, and cools it subsequently by degrees.

Dr. Edes said he had tried the cold-water treatment. He thought it should be employed early in the disease. If not used before the second or third week the results were less favorable. He had tabulated about thirty cases in which this plan had been adopted in the first week of the attack, and the mortality had been quite small. He had given several cold baths daily. He thought the enlargement of the spleen was not often reported in cases occurring in this region, possibly because it was not always sought for.

Dr. Haskins said that he always examined the spleen in cases of typhoid fever, and almost always found it enlarged. In a recent case of a child of eighteen months this enlargement had served as a means of differential diagnosis to eliminate the possibility of confusion with meningitis. He inquired as to the theory in regard to the use of calomel in typhoid fever.

Dr. Doe replied that it was given as an antiseptic, upon the idea that the disease was due to bacteria, according to Friedreich.

Dr. Tarbell said that he believed the use of calomel in typhoid fever was more general than is usually supposed. He knew good practitioners who always began with calomel, and for the last two years he had done so himself.

Dr. Morrill referred to an article published by an Edinburgh physician

some three years since, in which the occasional use of saline cathartics was advocated as the most effectual means of washing out the intestines and removing fæcal matter from direct contact with the ulcerations, a condition of things which cannot fail to be injurious to the patient if the generally accepted theory of the origin of typhoid fever be correct.

Dr. J. J. Putnam mentioned that Dr. Emerson, of Concord, arranged the patient upon pillows so as to form an inclined plane, and then poured the water over the patient, making a gutter by means of an India-rubber blanket. He also stated that, according to Traube, calomel lowers the temperature in other acute febrile processes. In pneumonia Traube gives five grains of calomel, repeating, if necessary, until two or three dejections have taken place, and finds, when this plan is pursued, that the temperature falls perceptibly.

A New India-Rubber Splint. — Dr. C. P. Putnam showed a rubber splint which he had devised upon the principle of lacing boots across by means of hooks upon the two sides, which hooks serve as points of attachment for a cord. Ease to the patient and facility of application were the advantages claimed for this device.

TYNDALL AND BASTIAN ON THE GERM THEORY OF DISEASE.

The recent experiments of Professor Tyndall in reference to the phenomena of putrefaction and infection, although adding no new facts to those already brought forward in the discussion of the germ theory of disease, are interesting as corroborative evidence emanating from high authority. The question about which so many experimenters have differed is, simply, whether putrescible solutions after boiling for a time can be exposed to an atmosphere free from organic germs without undergoing decomposition. The school of which Professor Tyndall is the present champion asserts that fluids can be thus exposed without decomposing. Many of our readers will remember Tyndall's experiments with floating particles in the atmosphere, which attracted so much attention a few years since. He then showed that these particles could be completely removed from the air by heat, which destroys their organic matter; by filtration through cotton-wool, or, to some extent, through the lungs; or by allowing them to settle. The most delicate test of the purity of air thus treated was found to be the passage through it of a beam of light. The path of a ray of light in a darkened room is well known to be marked by the illumination of floating particles. If the beam, however, is passed through a flask of purified air, the space inside the vessel appears dark. Apply now the beam to a flask filled with a clear liquid, and we find the light transmitted as through a lens, the contents appearing dark, while a turbid liquid appears brilliantly luminous. As turbidity is a consequence of putrefaction in a liquid, we have here a method of detecting the earliest changes in fluids subjected to the tests above indicated. This light test of liquids was the prominent feature of Tyndall's experiments. His apparatus is described as an air-tight wooden box, of which one side was glass, while each end had a glass window through which the beam

of light could pass. Through the bottom passed several test-tubes, sealed in their holes, and with their open ends upwards. In the top was an India-rubber stuffing-box, through which passed a long pipette by which liquid could be dropped into each test-tube in turn. The inside of the box was moistened with glycerine, so that all particles that settled on it might be retained. Alterations of volume were provided for by small tubes, plugged with cotton-wool at the top. The apparatus remained at rest for three days, the passage of a beam of light showing the air at the end of this time to be free from dust-particles. Organic solutions were then dropped into the tubes and boiled for five minutes. Similar experiments were made with air purified by filtration and by calcination. Except in a few cases where the cause of failure was obvious, no turbidity occurred, and no organic life was developed, even after the lapse of months. Every one of these solutions, when exposed to ordinary air, putrefied rapidly. Professor Tyndall, in closing his account, remarks, "Let us imagine that these minute and invisible particles were increased in size till we could see and handle them, that we planted them in garden-mold, and that in a week's time there came up a crop of cress or of grass; would any sane man have a doubt as to their nature?"

These statements by Tyndall have brought out a somewhat severe reply from Bastian, whose views on spontaneous generation are well known. The explanation of Tyndall's experiments, he thinks, is an easy one. The fermentability of these solutions is destroyed by boiling the germs, which are thus killed, while the virtues of the dissolved organic matter are impaired. The barrenness of the infusion is attributed by him, therefore, to the absence of unheated organic particles forming part of the organic *débris* which enters so largely into the composition of atmospheric dust. Tyndall's failure to obtain putrefaction is stated by Bastian to be due to his neglect to maintain the infusions at a sufficiently high temperature after boiling. The temperature of the surrounding atmosphere should be as high as 90°, or even 115°, while Tyndall was content with 60° and 70°. Care should also be taken to make the infusions strong enough; a weak one will show no trace of living organisms for a long time. Dr. Sanderson accepts with Bastian the fact that many boiled fluids will putrefy in closed vessels from which air has been expelled by boiling, but explains it by a "latent vitality" in some bacteria not extinguishable by exposure for ten minutes to the influence of boiling water. Bastian concludes with the following remark: "If, as Professor Tyndall believes, and as his experiments seem to show, bacteria and their germs are killed by boiling them for five minutes, nothing remains but for us to shake hands over the establishment of the occurrence of 'spontaneous generation' and the overthrow of the germ theory of disease."

Inasmuch as Bastian accuses Tyndall of making a very insufficient study of the previously recorded work of other investigators, we are somewhat surprised to find him making the statements cited above without allusion to the investigations of those who have found bacteria still living after prolonged boiling, or comparatively indifferent to strong acids, ether, or chloroform. Jeffries Wyman found that bacteria were not destroyed until after six hours' boiling. Solutions thus treated have remained for five years without symptoms of putrefaction. If

this be true, Bastian's experiments become worthless to him, while Tyndall has shown how almost complete immunity from decomposition may be procured by a process which fails to destroy entirely organic life at the outset. If, as Professor Bastian says, the formation of correct notions upon this subject is of enormous importance, as regards both the science and the practice of medicine, one would hardly expect to hear him decry attempts to investigate it, or demand of others that they should look upon his experiments in this direction as exhaustive.

MEDICAL NOTES.

— The advantage of the employment of artificial respiration in some cases of apoplexy is illustrated in the report of a case to *The Medical Record* of January 22, 1876. Dr. C. J. Cleborne writes that while traveling in the cars a gentleman was seized with apoplexy. Dr. Cleborne had him immediately removed to the parlor car, laid on the floor, and his clothing loosened. By this time he was entirely unconscious, his breathing was slow, labored, stertorous, and puffing; his face was flushed and turgid; his pulse slow, hard, and intermitting; his pupils slightly contracted; no convulsions or paralysis. Fearing that his patient would die by apnœa, — the face becoming more livid, the coma more profound, and the respirations feeble and labored, — Dr. Cleborne had recourse to Sylvester's method of artificial respiration, and in an hour and a quarter had the satisfaction of seeing the patient return to consciousness, so that by the time the train reached his place of abode he was in a condition to be removed to his residence. He is now in the enjoyment of good health. The writer is convinced that but for the timely use of artificial respiration a fatal result must have occurred.

— Dr. A. B. Bowen recommends, in *The Medical Record* of February 12, 1876, the following as a "radical cure for piles." He injects into the hæmorrhoidal tumor a solution composed of equal parts of carbolic acid and fluid extract of ergot, using from ten to fifteen minims of the solution. The process is to be repeated once a week for five or six weeks, when the tumor disappears.

— A more Effectual Method of applying Iodine to the Interior of Certain Cysts is given by Furneaux Jordan, F. R. C. S., in *The Lancet* of January 20, 1876. He has met in practice with two classes of scrotal hydroceles in which the ordinary methods of treatment are either difficult to use or uncertain in their result. In boys and men there are occasionally encysted hydroceles of the testis, or of the cord, which continue to increase in size, or in which treatment is urgently requested. In such cases the following is a trustworthy method of treatment. The cyst being well isolated, made tense, and brought near the surface, a stout needle armed with silk is passed through the centre, and the threads left hanging. The fluid quickly oozes away, especially if slight traction is made on the threads. The threads at one opening are then wet with iodine liniment, — liniment because the quantity required is so limited, — and drawn so as to leave moistened portions within the cyst. Gentle friction will

help to spread the iodine over the lining membrane of the cavity. An hour later, freshly moistened portions may again be drawn through if the cyst is large. In a very small cyst a single thread, moistened and kept in one hour, will suffice. Another class of cases are those of simple vaginal hydrocele, in which the injection of iodine and other ordinary methods of treatment are unsuccessful. A case is related of a hydrocele in a young man which had resisted the various methods of treatment, but which soon disappeared by passing through the cyst at three o'clock a double silk thread at two spots. In a few minutes all the fluid had oozed out, and the threads, moistened with iodine liniment, were drawn into the cavity. The patient was directed to repeat the process in an hour. He moistened the threads four times in six hours. At midnight the effects had become so sharp that he was glad to remove the threads, as he had been directed. He remained at home one day only, and was shortly and permanently well.

MASSACHUSETTS GENERAL HOSPITAL.

SURGICAL CLINIC.

[SERVICE OF S. CABOT, M. D.]

Extensive Burn. — Ann C., a strongly-built domestic, entered the hospital December 27, 1875. One week previous, while she was tending a furnace fire, there was an explosion of coal-gas, which ignited her clothes. Her left fore-arm, her back from the spines of both scapulæ downward, the nates, and the back of both thighs as far as the knees were deeply burned. Both sides from the axillæ downward were also burned, showing the bared papillæ of the skin. Pain was very severe, and was relieved by morphia, subcutaneously, *pro re natâ*. The burned surface was brushed over with mucilage, to which sufficient molasses had been added to make a flexible pellicle. Great relief was experienced from this dressing. The pulse was 114, and moderately strong.

January 4, 1876. Two weeks after the accident. The patient's condition up to this date had been almost unchanged; the pulse had averaged 120, and the temperature had hardly risen above 100° Fahr. The sloughs were beginning to separate in places. Slight difficulty in breathing was now complained of for the first time, but the position of the patient, lying upon her abdomen and chest, might account for this; nothing more than a roughening of respiration was detected with the stethoscope.

January 5th. Deglutition noticed to be somewhat embarrassed, and the tongue and fauces were found to be covered with an aphthous deposit.

January 6th. The patient became unable to speak aloud or to swallow. From this time she was nourished by enemata of brandy and beef-tea. The edges of the burns were healing rapidly, and the discharge of pus was profuse. The pulse, which had thus far been almost constantly 120, now rose to 150. Respiration became somewhat hurried.

January 10th. Three weeks after the accident. All symptoms had become

aggravated; the patient was delirious at times; the uterus had prolapsed; dejections were involuntary, and the pulse had risen to 168. During the night the respiration grew hurried, 44 in a minute, and became stridulous. The patient grew livid and unconscious, and early in the morning of January 11th tracheotomy was performed. The urgent symptoms were immediately relieved by the operation; the patient became conscious, and took some nourishment by the mouth.

From this time there was but little suffering; the pulse grew feebler and more rapid, and on the morning of January 12th, or twenty-three days after the accident, the patient quietly died.

An autopsy was not allowed.

Considering the extent of surface burned over, and the depth of the burns, the patient's vitality seems remarkable. There was no abdominal pain, vomiting, or diarrhœa, to arouse suspicion of intestinal lesion, although the deposit in the mouth was evidence of disordered digestion. There was no inhalation of flame, and the extension of this deposit may have been the cause of impending suffocation.

Cystocele. — Grace P., a married woman, thirty-two years old, entered the hospital November 10, 1875. She had been married thirteen years, and had had two children and several miscarriages. Eight years ago her youngest child was born and her present trouble began. Now, upon any exertion, a round, soft tumor projects from the vulva and causes considerable pain. Vaginal examination showed the anterior wall of the vagina to be lax and flabby, and to prolapse upon the patient's standing. There were old scars on the os, but otherwise the uterus seemed healthy.

November 15th. The patient was etherized, and a piece of the mucous membrane of the anterior wall of the vagina, about two inches by one, dissected off. The edges of the wound were brought together with wire sutures, silk ones alternating. The bladder was relieved by the catheter.

Six days after the operation the stitches were removed; one or two sloughed, but no harm resulted.

Three weeks after the operation only a small granulating surface was left.

The patient had considerable trouble with cystitis, as urine formerly collected in the descending pouch; the bladder was washed out with Sir Henry Thompson's solution of carbolic acid.

Five weeks after the operation the patient sat up for the first time, and was discharged a week later.

February, 1876. There has been no return of the old trouble, but there is some leucorrhœa.

Refracture of the Arm. — Bridget G., aged ten, entered the hospital November 30, 1875. Three months before this she fell over some banisters, striking on her hand and breaking her fore-arm. The arm was said to have been set by a coroner. On examination the radius and ulna, about two inches above the wrist, were found bent towards the olecranon, making an angle of about 150° with the rest of the arm. The radius felt smooth as the finger was passed over its surface, but a distinct prominence could be felt upon the ulna at the angle. The hand and fingers were considerably flexed, could be

but partially extended, and immediately resumed their former position upon force being discontinued.

December 4th. The patient was etherized, and the arm forcibly straightened; the radius was bent into position, but the ulna was refractured. The hand and fingers were also straightened. Anterior and posterior splints were applied.

December 19th. Good union had resulted: the arm was perfectly straight; the fingers showed some tendency to become flexed, and the splints were reapplied.

December 24th. Passive motion applied to the fingers.

January 4, 1876. All apparatus left off; the arm was now straight and motion was good.

J. E. GARLAND.

LETTER FROM PHILADELPHIA.

MESSRS. EDITORS. — The Centennial Medical Commission has not yet published the final circular which will include the names of gentlemen who will address the International Congress next September. It is considered a wise plan, and it cannot be denied that it is so, to withhold this list until it be positively known who will deliver addresses, because the commission would surely be charged with uncertainty and the creation of confusion, were they to publish an imperfect list or one which it would be necessary to modify after what ought to be a final and definite announcement. The members of the commission are doing all in their power to forward and perfect the arrangements of the congress. But there are many impediments, and much waiting and annoyance are caused by the failure of correspondents to reply promptly to questions which must have an answer before a full and perfect programme can be published. These hindrances can be appreciated by those only who are doing the work. I would, then, bespeak patience for them on the part of those who are waiting to know just what is to be done and who are to address the congress.

Two editors are upon the committees, and since they counsel this withholding of imperfect intelligence, and since they themselves refrain from publishing matters which, as yet, are in embryo, the commission ought not to be criticised or deemed dilatory. It is thought that a correct programme of the entire plans of the commission will be ready in about a fortnight.

In the exhibition there will be an elaborate display of surgical instruments and appliances of every variety, and manufacturing chemists will exhibit full cases of their productions. There will also be a model army hospital under control of the government. The members of Dr. Pepper's centennial staff recently held a meeting to discuss plans and choose days of service. They were appointed as "assistant medical directors," but this title does not indicate the work they have to perform. They have therefore substituted that of "officers of the medical bureau."

At this meeting a plan of the centennial hospital was presented by Dr. Pepper. It will be a one-story building in the shape of a Geneva cross. It will have a roomy attic for ventilation-purposes and also to give coolness to

the wards. There will be a Pullman-car roof as an additional security against heat, and further, there will be a wind-sail, a nautical device in the shape of a canvas tunnel, which will pass through the roof and descend to within a few feet of the floor of the wards. At its weather-end the tunnel will be furnished with wings after the manner of wind-sails in general, and its mouth will be kept constantly turned towards the wind. The breezes thus being collected in large quantities will by their own force descend into the building. Those who have enjoyed the delights of a wind-sail in hot climates know what a luxury it is. The wards of the hospital will be small, having probably only two or three beds each, for the hospital is designed for temporary purposes alone, and patients will never be kept overnight, but will be sent away as soon as safety will permit. To this end at least two ambulances will constantly be at the call of the acting officer of the hospital. The term of service of each of the six members of the staff will be three hours every other day. The gentlemen who have been appointed to this service are Dr. R. G. Curtin, Dr. Samuel W. Gross, Dr. Herbert, Dr. Hamilton Osgood, Dr. Jacob Roberts, and Dr. Horatio C. Wood, Jr. Each officer will wear an appropriate badge in the shape of a small enameled Geneva cross, and will have the *entrée* of the exhibition at all hours. Medicines will be gratuitously furnished by Bullock and Crenshaw, Rosengarten and Sons, and others. A special room will be reserved in some portion of the hospital building as a place of resort, or rather, perhaps, a sort of *conversationssaal*, for any physicians (regular of course) who may be on the grounds. It has been also proposed by some ingenious individual connected with the exhibition (one gifted with a peculiarly keen sense of the internal fitness of things, and who made the suggestion in all earnestness) that space shall be provided in the hospital for the exhibition of *gravestones and coffins!* What a square-faced undertaker, ghost, grave-digger, or dissection-room janitor that man would make! Somebody writes, "After all, the poet is the most practical of men; he sees life as it is." Imagine the intensely poetic fervor of this grave-stone man!

The plans of the Jefferson College Clinical Hospital, now in process of construction, indicate that it will be the most perfect structure for clinical purposes that has yet been erected. The auditorium will be remarkably easy of access both to students and to patients, and will accommodate six hundred listeners. The rooms of the building will be arranged most conveniently for the use of the various specialties, each suite being composed of a waiting-room and reception-room, and all communicating easily with the wards. There will be an elevator, water conveniences, etc., after the most modern and ingenious fashion. In a future letter, and after the completion of the hospital, I will give you details in full.

An enterprising photographer in town has conceived and carried into complete success the collection in a large album of the photographs of all the regular physicians of Philadelphia. None others will be admitted. Every physician whose photograph is used pays ten dollars for the privilege, and is besides presented with a twelve-by-eighteen photograph of himself for domestic use. Upon completion of the album a copy will be presented to the Smithsonian Institution, one to the College of Physicians of Philadelphia, one to

Jefferson Medical College, and one to the University of Pennsylvania. Like every other new thing now in motion here, this is a centennial project, and intended as a medical memorial of the centennium. Five hundred physicians have already consented to be photographed. The cards will be arranged in the album in order, following an alphabetical list of the names of the physicians, which list will be placed at the beginning of the album, each name having a number, which will be duplicated on the proper photograph. Copies of the album will be offered for sale at the exhibition. This opportunity to be handed down to posterity in fac-simile is too tempting to be resisted. The work is in the hands of a leading photographer, and will be well done. And to him belongs the credit of originating the idea; be kind enough not to attribute it to the physicians.

The report of the insane department of the Pennsylvania Hospital (commonly known as "Kirkbride's") for 1875 has just been published. The total number of patients during the year was 684; the highest number at one time, 450; the average number during the whole year, 430. There were 208 males and 222 females. Of the patients discharged during the year, 112 were cured; 27 were much improved; 39 were improved; 44 remained stationary; and 42 died. The whole number of patients since the opening of the hospital in 1841 is 7167. The report in its mention of the various entertainments, occupations, and amusements of the patients, refers especially to a school-kitchen for the preparation of "sick-diet," to be introduced as a means of giving useful occupation to patients capable of rendering assistance in this direction, their wish to do so being consulted. The expenditures for the year in the male department were $102,644.11, of which $8,161.92 were expended on free patients, who averaged 16 in number. The net receipts of this department were $104,149.37. In the female department the expenditures were $98,722.42, the receipts $101,383.03. Free patients averaged 35 in number, and cost $15,564.15.

An interesting centennial retrospect of the history of the care of the insane in the United States forms one chapter of the report. The fact is mentioned that previous to 1751 there was no regular provision for the insane in America. The first insane patient was admitted into the Pennsylvania Hospital February 11, 1752. Now, there are seventy-six public hospitals for insanity, with a capacity, when complete, for 30,000 patients.

In the trial of Rubenstein, the alleged (and now convicted) murderer of Sara Alexander, recently closed in New York, Professor Eaton testified concerning the character of spots of blood and splints of corn-husks found on the prisoner's boots. After reporting this testimony the *New York Herald* published an anonymous article on blood-stains, which bore very heavily, very insultingly too, upon statements made by Dr. Joseph G. Richardson, of this city, who is a microscopical expert, and who wrote the excellent little Handbook of Medical Microscopy. In a paper on blood-stains, published in the *American Journal of the Medical Sciences* in 1869, Dr. Richardson forbore to mention the names of those animals the size of whose blood-corpuscles so nearly resembles that of human blood-corpuscles, because he feared that the information might be wrongfully used, not only by criminals and those crim-

inally inclined, but also by unscrupulous lawyers. Medical men, he knew, would merely have to refer to physiological tables of the measurements of the red corpuscles of various animals. Whatever may be the general opinion concerning the position taken by Dr. Richardson, it simply showed the conscientiousness which is thoroughly characteristic of the man. But the writer in the *New York Herald*, who, for private and questionable reasons, chose to be anonymous, most unjustly, and apparently with a purpose which may be easily conjectured, attacks the truthfulness of Dr. Richardson, and, without literally calling him a liar, intimates that he is guilty of suppressing the truth, remarking that "he has falsely stated the issue." The opinion of Dr. Woodward, of Washington, D. C., which in the matter of distinguishing one blood-corpuscle from another is adverse to that of Dr. Richardson, is then given *in extenso*. But nothing is said of the acquiescence of Dr. Taylor (the celebrated writer on medical jurisprudence) in the opinions held by Dr. Richardson, and neither is mention made of the notice (of Dr. Richardson's defense of his position) which appeared in the *British and Foreign Medico-Chirurgical Review* for July, 1875, and which was as follows: —

"Dr. J. G. Richardson, in this short paper (The Diagnosis of Blood-Stains), defends his previous position from an attack made upon it by Dr. J. J. Woodward. Dr. Woodward maintains that we can never affirm truthfully, on the strength of microscopical investigation, that a given stain is positively composed of human blood. Dr. Richardson agrees with this as being literally true, but not the whole truth, because it often happens in practice that evidence other than microscopical narrows down the conditions of a case to the question, Is this stain human blood or that of an ox, pig, or sheep? The question thus narrowed can be answered by the microscopist, according to our author, and we entirely agree with him. We further agree with him in the caution he displayed in his former paper in not suggesting to the criminal population what bloods of inferior animals are difficult of differentiation from human blood." This independent and valuable testimony in behalf of Dr. Richardson was left unnoticed by the *Herald*. Dr. Richardson addressed that paper, protesting against the anonymous article in which he was so discourteously treated, and, while he felt that the writer was beneath the dignity of a reply, took occasion to restate his views, making use of the favorable opinion of his papers expressed by Tayor and the medical quarterly above mentioned, whereupon the *Herald* in an editorial politely (!) remarks that Dr. Richardson appears to be innocent-minded, of good intentions, but behind the times, and asks whether it could be supposed that a criminal would kill a dog in order to make evidence with his blood, when it is known that murderers always expect to escape detection; it also remarks that Dr. Richardson's silence in regard to certain animals was not at all complimentary to the scientific readers of his papers. This is merely an evidence of the justice which one meets at the hands of newspapers. The worst feature of the whole matter is that the candor and truthfulness of an honest and earnest worker in medical science have been wickedly and unjustly assailed. While he withheld the names of animals whose blood he feared might be wrongly used by criminals, Dr. Richardson at the same time frankly admitted that there were animals whose blood-corpuscles could not be distinguished from

those of human blood, and he has carefully stated his reasons for not naming them in his early paper. To call this dishonesty, false statement, suppression of the truth, etc., is a wrong to a good man, is nonsense, and is unworthy of a newspaper which lays any claim to character. X.

PHILADELPHIA, *February* 19, 1876.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING FEB. 19, 1876.

	Estimated Population.	Total Mortality for the Week.	Annual Death-Rate per 1000 during Week.
New York	1,060,000	567	28
Philadelphia	800,000	337	22
Brooklyn	500,000	233	24
Boston	342,000	176	27
Providence	100,700	30	15
Worcester	50,000	18	19
Lowell	50,000	12	13
Cambridge	48,000	18	19
Fall River	45,000	15	17
Lawrence	35,000	7	10
Lynn	33,000	11	17
Springfield	31,000	11	18
Salem	26,000	9	18

Normal Death-Rate, 17 per 1000.

BOOKS AND PAMPHLETS RECEIVED. — De l'Anæsthésie produite par Injection intra-veineuse de Chloral selon la Méthode de M. le Professeur Oré. Par V. Deneffe et A. Van Wetter, Professeurs à l'Université de Gand, etc. Bruxelles. 1875.

Transactions of the American Ophthalmological Society. Eleventh Annual Meeting, Newport, July, 1875. New York: William Wood & Co. 1876.

On the Extirpation of Enlarged Lymphatic Glands. By Rushton Parker, M. B. F. R. C. S. (Reprinted from the Liverpool and Manchester Medical and Surgical Reports. 1873.)

A Criticism of Esmarch's Elastic Compression. By Rushton Parker, M. B., F. R. C. S. (Reprinted from the Liverpool and Manchester Medical and Surgical Reports. 1875.)

Veratrum an Antidote to Opium. By J. S. Todd, M. D. (Read before the Atlanta Academy of Medicine.)

Filth-Diseases and their Prevention. By John Simon, M. D., F. R. C. S., Chief Medical Officer of the Privy Council, etc. (Printed under the direction of the State Board of Health of Massachusetts.) Boston: James Campbell. 1876.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting of the society will be held on Monday evening, March 6th, at eight o'clock, at the hall in Temple Place. Dr. F. H. Brown will read a paper on Arsenical Wall-Papers.

ERRATA. — In JOURNAL of February 24th, on page 210, thirteenth line, for "Moyan" read Morgan; and on page 212 the second and third paragraphs should be in quotation marks.

IT is proposed to prepare a second revised edition of the United States Medical Directory. Physicians who have commenced practice or changed their place of residence during the past three years are requested to forward notice of such changes to the office of the Medical and Surgical Reporter of Philadelphia.